



Wisconsin State
Laboratory of Hygiene

UNIVERSITY OF WISCONSIN-MADISON



WMLN Case Study

Necrotizing Palate Biopsy Specimen

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- ❖ 44 year old male from Honduras
 - ❖ Immigrated to US 12 years ago
to WI 4 years ago

- ❖ Seen at a clinic with
 - chronic sore throat
 - painful swallowing
 - night sweats
 - weight loss
 - "verrucous" lesions in the throat
 - Referred to **ENT** clinic





Oct. 2016	Bx of palatal mass Pseudoepitheliomatous hyperplasia No evidence of Dysplasia or Malignancy
	Bx of Uvula <ul style="list-style-type: none">• Chronic mucositis with squamous hyperplasia• Infectious etiology favored • Referred for follow up at a bigger hospital • No money for follow up
10 months	<ul style="list-style-type: none">• ENT Dr. followed up with patient• Ordered TB IGRA: Pos• Chest X-ray Normal, No chest pain,• No hemoptysis• HIV Neg



11 months	Under isolation for active extra-pulmonary TB TB meds (RIPE) started
Next 3 days	3x sputum collected All smear Neg (later all culture Neg)
11.5 months	Released from isolation after 2 weeks of RIPE & 3 neg smears
13 months	PZA & Ethambutol stopped INH & Rif cont'd



14 months	Bx of soft palate AFB smear Neg Squamous mucosa with mild epithelial atypia assoc. with acute & chronic inflammation
14.5 months	Increased hoarseness & throat swelling, difficulty breathing & eating Started on steroids, condition improved
15 months	Consult to SNTC (Southeastern National TB Center)
	HIV Neg (repeat), Syphilis Neg



<p>15.5 months</p>	<p>Hoarseness & shortness of breath return</p> <p>Audible wheezing, Inability to eat, weight loss</p> <p>Back on daily steroids</p> <p>Symptoms improved</p>
	<p>SNTC recommends</p> <ul style="list-style-type: none">• CT scan of head/neck/chest• Continue TB meds & steroids



<p>Spring, 2018</p>	<p>Patient fails to improve</p> <p>2 paraffin blocks (palate, 10/25/17 & uvula 11/4/16) to CDC for confirmation of TB</p>
	<p>Repeat sputum collected, AFB smear Neg</p>
	<ul style="list-style-type: none">• Teleconference with SNTC, WI State TB program, BCPH• CT results reviewed• Do not think TB, but to complete 6 mo of treatment• Wait for paraffin block result from CDC
	<p>CDC result: Negative for any mycobacteria but</p> <p>Positive for ?</p>



Positive for *Leishmania* species by IHC

PCR & speciation to be done

PCR and DNA sequencing was **Neg** for *Leishmania* from these paraffin blocks

TB meds completed (6 months/180 doses)

Adequately treated for latent TB

Repeat Bx on palate for PCR & DNA sequencing at CDC

Result: ***Leishmania panamensis***



18 months	Patient hospitalized to begin Miltefosine (Impavido) 50mg TIDx 28 days Meds tolerated well
2 days later	Released
19 months	Throat lesions and weight improving Steroid tapered
Fall 2018 2 years	Improved but not gone 2 nd round of Impavido considered



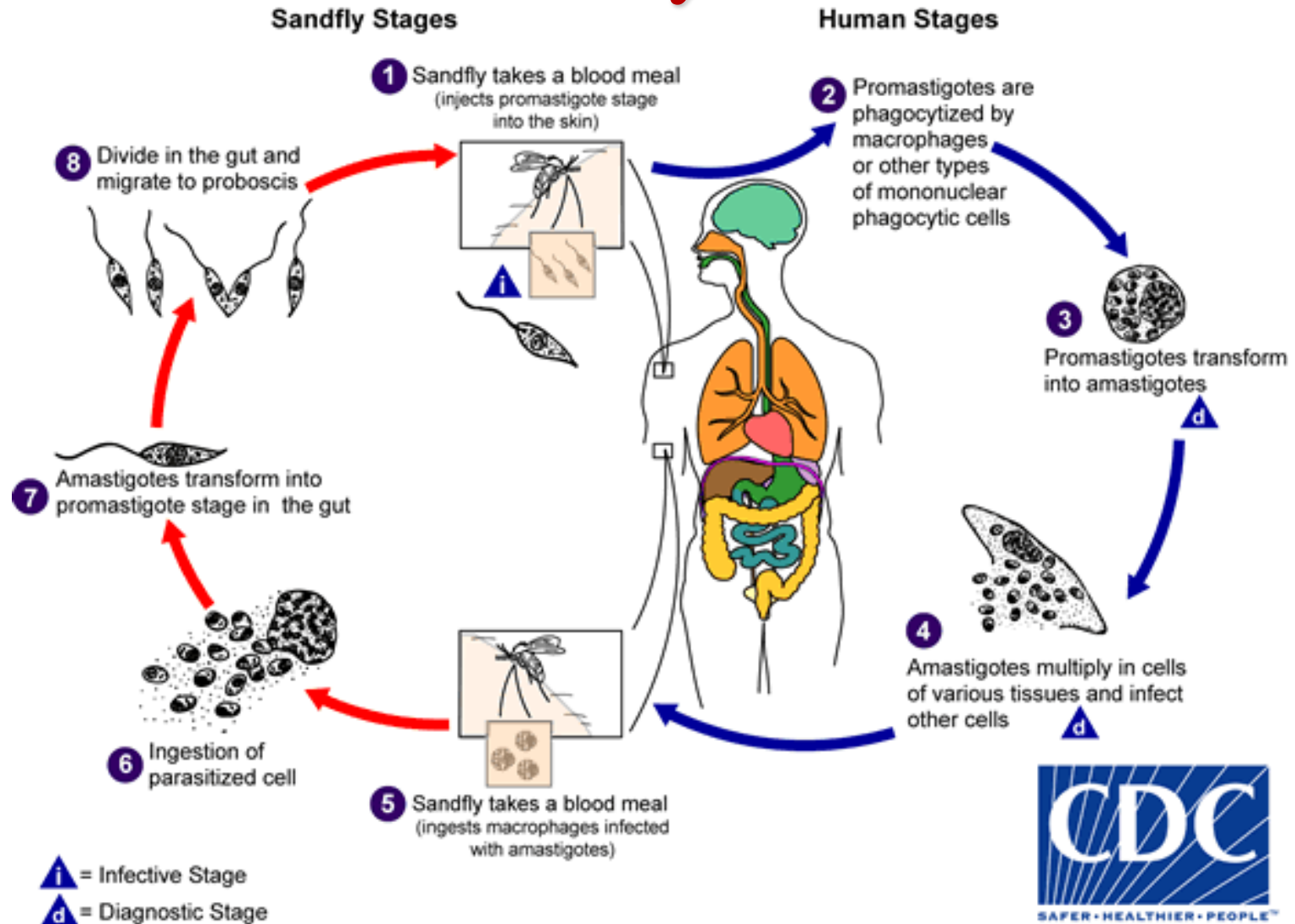
Leishmaniasis

- Leishmaniasis is a vector-borne disease transmitted by **sandflies** and caused by obligate intracellular protozoa of the genus *Leishmania*.





Life Cycle





Two main forms of disease

1. Cutaneous Leishmaniasis

-skin



-Mucocutaneous

difficulty in breathing & swallowing

L. panamensis is known to affect the mucosa



2. Visceral Leishmaniasis (kala-azar)

Parasites migrate to the internal organs such as liver, spleen (hence "visceral"), and bone marrow

fever, weight loss, night sweats, fatigue, anemia

enlarged spleen and liver





- Most of the affected countries are in the **tropics** and **subtropics**
- Leishmaniasis is found in parts of about 88 countries.
- Cases of leishmaniasis have been reported on all continents except **Australia** and **Antarctica**.
- Incubation period : 1 month – **24 years**



Bottom Line

- **Case of misdiagnosis**
 - Patient from a country with relatively high incidence of TB & Leishmaniasis
 - Idea of preventing misdiagnosis?
- **Comments?**





Treatment

Expand Section

Medicines called antimony-containing compounds are the main drugs used to treat leishmaniasis. These include:

Meglumine antimoniate

Sodium stibogluconate

Other drugs that may be used include:

Amphotericin B

Ketoconazole

Miltefosine

Paromomycin

Pentamidine



Prevention

Expand Section

Taking measures to avoid sandfly bites can help prevent leishmaniasis:

Putting fine mesh netting around the bed (in areas where the disease occurs)

Screening windows

Wearing insect repellent

Wearing protective clothing

Public health measures to reduce sandflies are important. There are no vaccines or drugs that prevent leishmaniasis.



different forms of leishmaniasis.

Cutaneous leishmaniasis affects the skin and mucous membranes. Skin sores usually start at the site of the sandfly bite. In a few people, sores may develop on mucous membranes.

Systemic, or visceral, leishmaniasis affects the entire body. This form occurs 2 to 8 months after a person is bitten by the sandfly. Most people do not remember having a skin sore. This form can lead to deadly complications. The parasites damage the immune system by decreasing the numbers of disease-fighting cells.

Cases of leishmaniasis have been reported on all continents except Australia and Antarctica. In the Americas, leishmaniasis can be found in Mexico and South America. Leishmaniasis has been reported in military personnel returning from the Persian Gulf.

Leishmaniasis is found in parts of about 88 countries.

Most of the affected countries are in the tropics and subtropics

Human Leishmaniasis encompasses multiple clinical syndromes, most notably visceral, cutaneous, and mucosal forms.

Infections can result in two main forms of disease, cutaneous leishmaniasis and visceral leishmaniasis (kala-azar).

Persons who have visceral leishmaniasis usually have fever, weight loss, and an enlarged spleen and liver (usually the spleen is bigger than the liver).



2/7/2018

Chest CT: Some hazy ground glass infiltration involving the right middle lobe

Sinus CT: Mild maxillary & ethmoid sinus disease

Head/Neck CT:

1. Severe infiltrative process throughout the upper aerodigestive tract extending from the oral cavity to the subglottic airway consisting of nodular mucosal enhancement and thickening with severe submucosal edema and thickening with heterogeneously enhancing bilateral cervical adenopathy. Advanced infiltrative atypical granulomatous or fungal infectious process corresponding with the clinical history is suspected. Neoplastic etiologies could have a similar appearance such as infiltrative lymphoma.
2. Additional possible involvement of the globes bilaterally left greater than right. Ophthalmology consultation suggested. MRI of the brain and orbits could be considered as clinically appropriate.



Although the pathogenesis of visceral and cutaneous leishmaniasis are well understood, the pathogenesis of mucocutaneous leishmaniasis (MCL) is still unclear. However, it is believed that host genetic factors are important in the advancement of the disease. MCL development is similar to that of cutaneous leishmaniasis, and the two infections can occur simultaneously. MCL occurs when cutaneous lesions expand to the mucosal region or through metastasis. Moreover, it is not uncommon for MCL to develop many years after the recovery of an initial lesion. The result is a gradual and progressive development of destructive lesions.

species such as *L panamensis*, which are known to affect the mucosa, systemic therapy is recommended. For treatment of *L panamensis*, miltefosine, pentamidine, or liposomal amphotericin B, as used in this case, may be used depending on the clinical picture.



Symptoms

Expand Section

Symptoms of cutaneous leishmaniasis depend on where the lesions are located and may include:

Breathing difficulty

Skin sores, which may become a skin ulcer that heals very slowly

Stuffy nose, runny nose, and nosebleeds

Swallowing difficulty

Ulcers and wearing away (erosion) in the mouth, tongue, gums, lips, nose, and inner nose

Systemic visceral infection in children usually begins suddenly with:

Cough

[Diarrhea](#)

Fever

[Vomiting](#)

Adults usually have a fever for 2 weeks to 2 months, along with symptoms such as [fatigue](#), [weakness](#), and appetite loss. Weakness increases as the disease gets worse.

Other symptoms of systemic visceral leishmaniasis may include:

Abdominal discomfort

Fever that lasts for weeks; may come and go in cycles

Night sweats

Scaly, gray, dark, ashen skin

Thinning hair

Weight loss